ABSTRACT OF THE DISCLOSURE

A method of modeling speech distinctions within computer-animated talking heads that utilize the manipulation of speech production articulators for selected speech segments. Graphical representations of voice characteristics and speech production characteristics are generated in response to said speech segment. By way of example, breath images are generated such as particle-cloud images, and particle-stream images to represent the voiced characteristics such as the presence of stops and fricatives, respectively. The coloring on exterior portions of the talking head is displayed in response to selected voice characteristics such as nasality. The external physiology of the talking head is modulated, such as by changing the width and movement of the nose, the position of the eyebrows, and movement of the throat in response to the voiced speech characteristics such as pitch, nasality, and voicebox vibration, respectively. The invention also describes modeling a talking head on the facial image of a particular individual.